

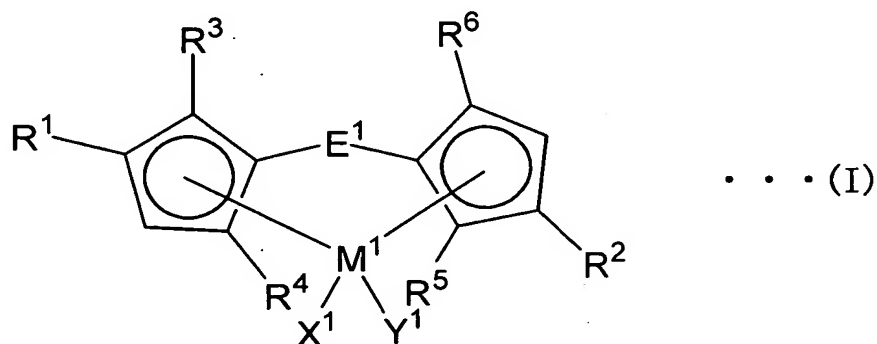
What is claimed is:

1. A process for producing a propylene-ethylene block copolymer in which propylene is copolymerized with ethylene using a catalyst system comprising a metallocene catalyst (1) preparing high crystalline polypropylene, a metallocene catalyst (2) preparing low crystalline polypropylene, a porous carrier (3), aluminoxane (4) or a compound (4) which can form an ionic complex by reacting with the metallocene catalysts described above and, if necessary, an organic aluminum compound (5).
2. The process for producing a propylene-ethylene block copolymer as described in claim 1, wherein propylene is polymerized in a first step, and propylene and ethylene are random-copolymerized in a second step.
3. The process for producing the propylene-ethylene block copolymer as described in claim 2, wherein the propylene-ethylene block copolymer satisfies the following requirement of:
  - (1) a triad chain fraction  $f_{EEE}$  of  $[EEE] \leq 0.1$  (mole %),
  - (2)  $R1 \cdot R2 \geq 0.5$ ,
  - (3) its intrinsic viscosity  $[\eta] \geq 1.0$  dl/g, and

(4) an intrinsic viscosity  $[\eta]$  of a xylene-soluble fraction  $\geq 1.0$  dl/g.

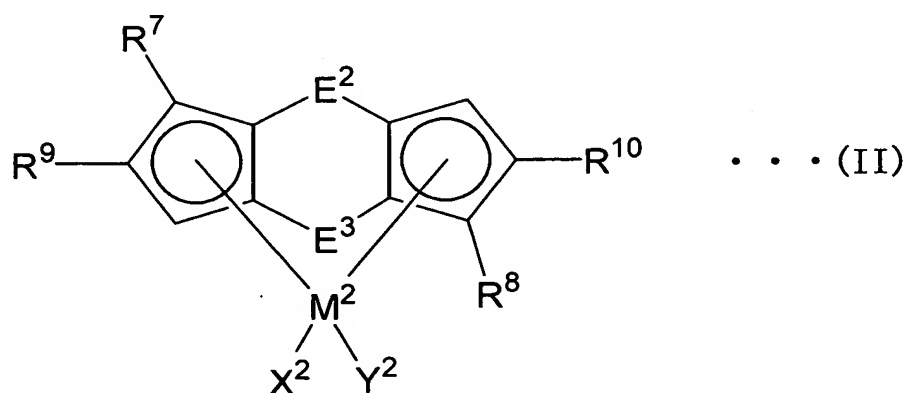
4. The process for producing the propylene-ethylene block copolymer as described in claim 1 or 2, wherein the metallocene catalyst preparing high crystalline polypropylene is a monocross-linked metallocene catalyst, and the metallocene catalyst preparing low crystalline polypropylene is a dicross-linked metallocene catalyst.

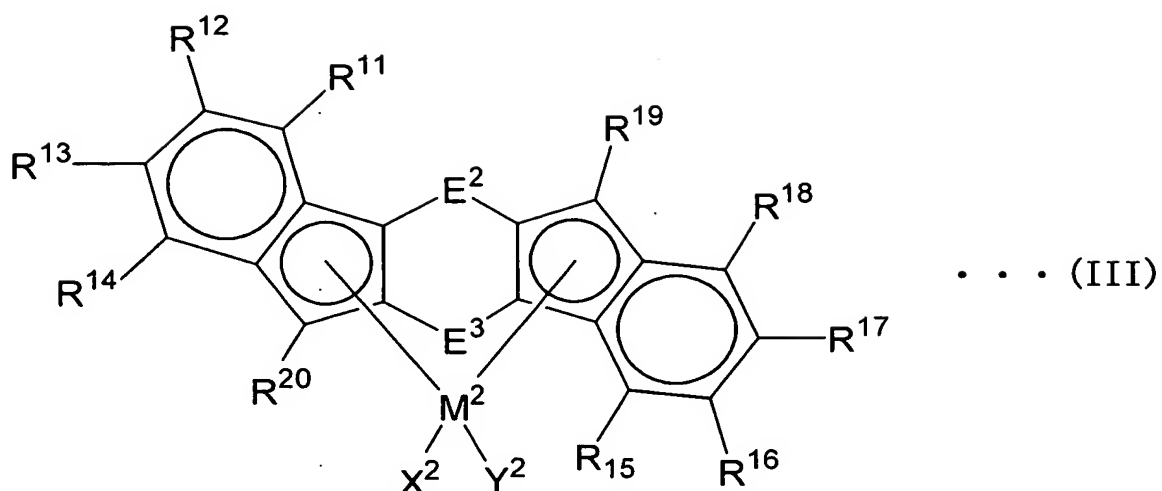
5. The process for producing the propylene-ethylene block copolymer as described in claim 4, wherein the monocross-linked metallocene catalyst is a transition metal compound represented by general formula (I):



wherein  $E^1$  represents a bonding group which cross-links two conjugate five-membered ring ligands;  $R^1$  and  $R^2$  each represent a hydrocarbon group, a halogen

atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group or a boron-containing hydrocarbon group;  $R^3$  to  $R^6$  each represent hydrogen, a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group or a boron-containing hydrocarbon group;  $M^1$  represents a transition metal of the IV to VI group in the periodic table;  $X^1$  and  $Y^1$  each represent a covalent bonding ligand; and  $X^1$  and  $Y^1$  may be combined with each other to form a ring structure; and the dicross-linked metallocene catalyst is a transition metal compound represented by general formula (II) or general formula (III):





wherein  $E^2$  and  $E^3$  represent a bonding group which cross-links two conjugate five-membered ring ligands;  $R^9$  to  $R^{18}$  each represent hydrogen, a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group or a boron-containing hydrocarbon group;  $R^7$ ,  $R^8$ ,  $R^{19}$  and  $R^{20}$  each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group or a boron-containing hydrocarbon group;  $M^2$  represents a transition metal of the IV to VI group in the periodic table;  $X^2$  and  $Y^2$  each represent a

covalent bonding ligand; and  $X^1$  and  $Y^1$  may be combined with each other to form a ring structure.

6. The process for producing the propylene-ethylene block copolymer as described in claim 4, wherein the monocross-linked metallocene catalyst is dimethylsilylenebis(2-methylbenzoindenyl)zirconium dichloride or dimethylsilylenebis(2-methyl-4-phenylindenyl)zirconium dichloride, and the dicross-linked metallocene catalyst is (1,2'-dimethylsilylene)(2,1'-dimethylsilylene)-bis(3-trimethylsilylmethylindenyl)zirconium dichloride or (1,2'-dimethylsilylene)(2,1'-dimethylsilylene)-bis(3-n-butylindenyl)zirconium dichloride.

7. A propylene-ethylene block copolymer produced by the process as described in claim 1 or 2.

8. The propylene-ethylene block copolymer as described in claim 7, wherein an elastic modulus E is less than 330 (MPa), and an internal haze H is less than 55 (%).